

**Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal**

Section 1. General administrative information

Protect And Enhance John Day River Fish Habitat

Bonneville project number, if an ongoing project 8402100

Business name of agency, institution or organization requesting funding
Oregon Department of Fish and Wildlife

Business acronym (if appropriate) ODFW

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
Grant Soil and Water Conservation District	721 S. Canyon Blvd	John Day, Oregon	Kenneth Delano
Various local contractors for fence materials and construction.	varies	varies	varies

NPPC Program Measure Number(s) which this project addresses.

NPPC Columbia Basin Fish and Wildlife Program Measures 7.6, 7.7, 7.8, 7.10

NMFS Biological Opinion Number(s) which this project addresses.

not applicable

Other planning document references.

“Integrated System Plan for Salmon and Steelhead Production in the Columbia River Basin”, CBFWA 1990. “John Day River Basin : Recommended Salmon and Steelhead Habitat Improvement Measures”, CTUIR 1984. “John Day River Basin Fish Habitat Improvement Implementation Plan”, ODFW 1987. “Oregon Dept. of Fish and Wildlife, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Indian Reservation”, 1990, John Day River Subbasin Salmon and Steelhead Production Plan. “County Court for the State of Oregon for Grant County”, 1992 Decision and Order # 92-22: Riparian Management Policy. “Bureau of Reclamation, 1990, Upper John Day River Basin Master Water Plan Working Paper.” “Malheur National Forest, 1990, Land and Resource Management Plan.” “Oregon Water Resources Dept., May 1992, Stream Restoration Program for the Upper Mainstem Subbasin of the John Day River.” “Oregon Water Resources Dept., May 1991, Stream Restoration Program for the Middle F

Subbasin.

Mainstem, Middle Fork and North Fork John Day River and tributaries.

Short description.

Establish long term riparian, fish habitat and tributary passage improvement on private lands.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	+	Construction	X	Watershed
+	Resident fish	X	O & M		Biodiversity/genetics
+	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	+	Ecosystems
	Climate	+	Monitoring/eval.		Flow/survival
+	Other	+	Resource mgmt		Fish disease
		+	Planning/admin.		Supplementation
			Enforcement	+	Wildlife habitat en-
		+	Acquisitions		hancement/restoration

Other keywords.

Fish habitat enhancement, Fish passage improvement, Watershed health, Floodplain protection and restoration, Landowner education, Public outreach.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9605300	North Fork John Day Dredge	Share equipment and personnel

	Tailings Restoration Project	between public and private lands.
8400800	North Fork John Day Habitat Improvement	Allows continuity between landownerships on John Day streams.
8402500	Grande Ronde Habitat Enhancement	Share equipment and personnel.
8710002	Umatilla Habitat Improvement	Share equipment and personnel.

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Administration	a	Provide program administration, coordination, organization and supervision.
2	Planning	a	Develop plans for enhancing watersheds, fish habitat and riparian areas on lands proposed for lease development.
3	Protect and improve watersheds	a	Protect and improve the watershed condition along an additional 4.2 miles of John Day streams.
4	Maintain project structures	a	Maintain 64.5 stream miles and 1,503 acres of existing projects to insure maximum program benefits.
5	Monitoring	a	Monitor and evaluate existing projects.
6	Project reports	a	Prepare and distribute reports of project outcomes.
7	Coordination and Education	a	Provide interagency coordination and public education.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	3/1999	3/2000	10.00%
2	5/1999	11/1999	3.00%
3	5/1999	11/1999	15.00%
2	5/1999	11/1999	60.00%
5	5/1999	11/1999	5.00%
6	3/1999	3/2000	2.00%

7	3/1999	3/2000	5.00%
			TOTAL 100.00%

Schedule constraints.

Catastrophic natural events like floods, windstorms or extreme fire danger.

Completion date.

2016

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel	2 FTE's 1 temp. 60% is for O&M	\$85,000
Fringe benefits	at 38%. 60% is for O&M	\$32,300
Supplies, materials, non-expendable property	Fence materials, instream materials, field supplies	\$62,063
Operations & maintenance	add 60% of Personnel, Fringe benefits, Travel and Indirect.	\$17,500
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Pickup tool box , rock drill, solar water pumps.	\$ 0
PIT tags	# of tags:	\$ 0
Travel	for 3 people, 60% is for O&M	\$16,000
Indirect costs	22.9%; except Capital and Subcontracts. 60% is for O&M	\$54,157
Subcontracts	for fence and instream construction, weed control and engineering.	\$112,980
Other		
TOTAL		\$380,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	\$395,000	\$410,000	\$425,000	\$440,000
O&M as % of total	60.00%	60.00%	60.00%	60.00%

Section 6. Abstract

This program provides long term protection, maintenance and restoration of fish habitat on private lands in the John Day sub basin through landowner agreements, fencing,

instream structures, riparian plantings, critical stream bank stabilization and passage structures. Program provides coordination of activities to implement new projects, repair damaged and aging fences and habitat structures, monitor and report results, administrate and market the program, serve as a resource for landowners and watershed councils to operate effective riparian/watershed projects and to coordinate with other agencies. All work performed contributes to the 1994 Columbia Basin Fish and Wildlife Program (FWP) goal of improving spawning and rearing habitat to increase overall fish runs in the Columbia River.

Section 7. Project description

a. Technical and/or scientific background.

The John Day River originates on the West slope of the Blue Mountains in East-Central Oregon. It flows from four major forks in a northwesterly direction to enter the Columbia at rivermile 218. It drains 8,010 square miles and is the third largest drainage in the state of Oregon. Primary uses of the basin are ranching, farming, logging, recreation and mining. Native populations of spring Chinook salmon, summer steelhead, redband trout, westslope cutthroat trout and bull trout remain intact today. There are no hatchery supplementations of anadromous fish anywhere in the basin. Salmonid populations are limited by degraded habitat (CTUIR 1984). The suspension of grazing... has the greatest promise of any restoration measure for attaining rapid improvement in habitat conditions and salmon survival (Rhoades et. al. 1994).

The project establishes long term riparian, fish habitat and tributary passage improvements on private lands through riparian leases, cooperative agreements and easements of 15 years in length. Individual projects contribute to ecosystem and basin wide watershed restoration and management efforts underway by state, federal and tribal agencies (Stuart et. al. 1987). The project provides off-site mitigation for mainstem fisheries losses caused by Bonneville, The Dalles and John Day hydroelectric dams. The project goal is to rehabilitate and improve anadromous fish spawning and rearing habitat as outlined in program measure 7.6 of the FWP (NWPPC 1994). Planning for project implementation includes the participation of private landowners, state and federal agencies, tribes and watershed councils as called for in measure 7.7 of the FWP. Individual projects also incorporate Best Management Practices as outlined in measure 7.8 of the FWP. Fish passage is established or improved as outlined in measure 7.10 of the FWP.

b. Proposal objectives.

1. Provide program administration, coordination, organization and supervision.
2. Develop plans for enhancing watersheds, fish habitat and riparian areas on lands proposed for lease development.
3. Improve the watershed condition along an additional 4.2 miles of John Day streams.

4. Maintain 64.5 stream miles and 1503 acres of existing projects to insure maximum program benefits.
5. Monitor and evaluate existing projects.
6. Prepare and distribute reports of project outcomes.
7. Provide interagency coordination and public education.

c. Rationale and significance to Regional Programs.

Low summer stream flows and the associated high water temperatures adversely affect salmonids throughout much of the John Day sub basin. Degradation of riparian areas and their effective hydrologic function has contributed significantly to these flow/temperature problems (ODFW, CTUIR, CTWSIR 1990). In 1984 the Confederated Tribes of the Umatilla Indian Reservation (CTUIR 1984) identified 542 miles of degraded stream habitat on private lands within the John Day sub basin in need of habitat restoration. After fifteen years of intensive efforts by this program 64.5 miles have been treated.

Hatchery supplementation has been dismissed as an option for increasing salmon and steelhead numbers in the sub basin (Stuart et. al. 1987). Habitat improvement and fish passage is presently the only option for increasing populations.

Encouraging recovery of riparian vegetation, improving stream bank stability and instream habitat diversity will result in an overall increase in water quality and quantity within the John Day sub basin. These habitat improvements will result in an increase in salmonid natural production carrying capacity within the system (Meehan 1991, Rhoades et.al. 1994). Removal or modification of fish passage barriers will also improve adult and juvenile salmonid access to preferred habitats.

By protecting riparian areas from intensive land uses (15 years minimum), attributes will become more pronounced as time goes on by allowing plants inside the fenced areas to succeed toward climax communities. Fenced areas will continue to produce these attributes until fence maintenance ceases.

The project establishes long term riparian and tributary passage improvement on private lands through riparian leases, cooperative agreements and easements of 15 years in length. Individual projects contribute to ecosystem and basin wide watershed restoration and management efforts underway by state, federal and tribal agencies. Planning for project implementation includes the participation of private landowners, state and federal agencies, tribes and watershed councils as called for in measure 7.7 of the FWP, (NWPPC 1994). The project goal is to rehabilitate and improve anadromous fish spawning and rearing habitat as outlined in program measure 7.6 of the FWP. Fish passage is established or improved as outlined in measure 7.10 of the FWP. Individual projects also incorporate Best Management Practices as outlined in measure 7.8 of the FWP.

d. Project history

On July 1, 1984 the Bonneville Power Administration and the Oregon Department of Fish and Wildlife entered into an agreement (#84-21) to initiate fish habitat enhancement work on private lands within the Mainstem, Middle Fork and North Fork sub basins of the John Day River in Northeast Oregon. The primary goal of the project was to protect, access, create or restore riparian and instream habitat for anadromous salmonids, thereby enhancing opportunities for natural fish production within the basin. This project provided for implementation of Program measure 703 (C) (1), Action Item 4.2 of the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program (NWPPC 1987) to rehabilitate instream aquatic and riparian habitats for Spring Chinook and summer steelhead production as off-site mitigation for fish losses due to the Columbia River hydroelectric system.

The project (new FWP # 8402100) is comprised of numerous smaller projects throughout the John Day river sub basin. Fifteen year riparian and instream leases are established with private landowners requiring considerable time developing rapport to gain acceptance of, and continued cooperation with, the program throughout the lease period.

At the initiation of the project a variety of riparian enhancement strategies were considered (such as intensive pasture management, total protection of riparian zones using exclosure fencing, intensive planting and/or instream structures, etc.) Based on our experience on Eastern Oregon streams, riparian exclosure fences, limited instream habitat placements and limited planting, has achieved the quickest recovery with the least amount of effort based on the cattle management strategies used in this area (Neal et. al. 1996). Factors such as stream order, stream location, climate, upper watershed condition and past management influence how quickly streams respond. High elevation sites typically require longer recovery periods than low elevation sites because of extreme climate changes and shorter growing seasons for riparian vegetation.

The effectiveness of instream structures alone at improving fish habitat is variable. They must be installed to address specific limiting factors in order to be successful (Cheney et. al. 1993). In planning habitat improvement projects we have focused on achieving proper floodplain function first and foremost. Instream structures are installed on a case by case basis where they address specific problems. Given a particular floodplain problem, there are a number of different approaches that may be utilized. We believe that in most situations riparian fencing, planting and using bioengineering techniques can achieve equal or better results than traditional "hard" structure techniques.

The project has used a wide variety of bioengineering and planting techniques to revegetate riparian areas. Bioengineering and riparian planting success is largely dependent on site selection and brood source. Local, indigenous stocks are the most likely to survive and produce the desired future condition.

Originally, riparian fences were presumed to require very little maintenance. Our experience has shown that cattle frequently get inside our enclosure fences during hot weather or when forage in outside pastures becomes exhausted. We now use weekly airplane flights and a modest, yet continuous, level of maintenance to find and remove trespassing livestock. Both are vital to the long term success of the program.

The project has been proactive in public outreach, interagency coordination, technology transfer, education and as a resource for landowners and watershed councils. Private landowners have become more receptive to participating as the program has matured. As recovery progressed on early treatment areas the neighboring landowners became concerned about how their lands looked in comparison. A 1996 proposed Oregon ballot measure (Measure 38) sparked fears that in the future all streams would require fencing. Several landowners have decided to start making changes or the ballot measure will surface again.

Activities of the project were coordinated with, and compliment fish habitat restoration projects on federal lands within the basin. Three watershed assessments have been completed for the basin (CTUIR 1984., Stuart et. al. 1987 and OWRD 1992). Individual projects contribute to ecosystem and basin wide watershed restoration and management efforts underway by other groups and agencies. Procurement of additional funding and cost sharing for projects is ongoing with groups such as ODFW Fish Restoration and Enhancement, the John Day Acid Spill Fund, the Umatilla and Warm Springs Indian Reservations and the Federal Emergency Management Agency.

A long term monitoring program has been in place that includes: Permanent thermographs established to monitor hourly stream temperatures at eight locations on four streams; collecting data from forty habitat monitoring transects on two streams; counting Chinook salmon and steelhead redds on three streams; neotropical songbird surveys on two streams and numerous physical or biological surveys that are coordinated with the ODFW fish district and area high schools.

Major results achieved include signing leases with thirty four landowners, protecting 64.5 miles of stream and 1,503 acres of riparian habitat, planting 7,450 riparian trees or shrubs, installing 3,040 instream habitat structures and installing three fish passage structures accessing 72 miles of stream. Steelhead redd counts have risen from an average of 3.75 per mile in 1990 to 12.3 redds per mile in 1996 in one study stream. Chinook redd counts have risen from an average of 5.6 per mile 1986 to 10.6 per mile in 1996 in another stream. Neotropical songbird counts on a third stream have risen from 20 species in 1986 to 40 species in 1996 (Neal et. al. 1996).

All project planning, implementation, maintenance, monitoring, coordination and education activities are summarized in quarterly and annual reports.

In 1997 the Federal Emergency Management Agency awarded \$41,760 to the project for restoration of flood damaged fences and structures.

The project length is now 15 years with past costs ranging from \$207,122.00 to \$406,481.00. Average cost has been \$317,850.00.

e. Methods.

The overall program objective is to increase natural production of wild anadromous salmonid populations by reducing sediment loading, improve water quality and quantity and improving riparian and instream habitat diversity.

Scope: This project addresses habitat degradation in the John Day sub basin by:

- 1) Implementing new projects through lease agreements with private landowners on selected streams.
- 2) Maintaining project investments throughout the life of the lease.
- 3) Monitoring and evaluating each project and applying adaptive management.
- 4) Coordinating project treatments and locations with other agencies, tribes and watershed councils.

Underlying Assumptions: Encouraging recovery of riparian vegetation, improving stream bank stability and instream habitat diversity will result in an overall increase in water quality and quantity within the John Day sub basin. These habitat improvements will result in an increase in salmonid carrying capacity within the system (Meehan 1991, Cheney et. al. 1993).

Specific Tasks: In FY 1999 we will continue working cooperatively with landowners to protect riparian and instream habitat on selected streams. This will be accomplished through lease or cooperative agreements that restricts human use (i.e. eliminates grazing, road construction, timber harvest, mining, burning, etc.).

Two new projects are developed that were prioritized based on the fish species affected, the quantity and quality of habitat they will enhance and their significance to the basin's watershed restoration goals. Implementation of these projects will follow the standard Planning Process and Prescriptions adopted in BPA's Record of Decision for the Watershed Management Program.

The first project involves continued leveling of the Granite Creek dredge tailing piles. An additional 1.3 miles will be completed. The project will rehabilitate spring Chinook and bull trout habitat destroyed in the 1940's. This project was begun in 1996 and will require \$88,000 for FY 1999. This is a cooperative project with the Umatilla National Forest who will be rehabilitating their adjacent lands. Tailings will be levelled with excavators, dozers and dump trucks during summer low flow periods. Disturbance of existing vegetation and fish habitat will be kept to a minimum. Disturbed areas will be revegetated and protected from livestock.

The second project involves fencing 2.9 miles of Indian Creek, a mainstem John Day tributary, that will enhance spring Chinook, summer steelhead and bull trout habitat. Project construction will be completed in one year and require \$36,000. Fence will be constructed along both sides of the stream. Gaps will be left for watering livestock. Stream banks will be stabilized where necessary to protect the fence.

Control of livestock utilization within riparian areas will be accomplished through: a) fencing riparian areas to exclude grazing and b) developing off-site water sources to encourage livestock to focus their attention away from riparian areas.

Riparian areas will be revegetated (if necessary) by: a) planting shrubs and trees; b) seeding grasses and legumes; and c) controlling noxious weeds.

Stream bank stability and instream habitat diversity will be improved (if necessary) on a site-specific basis by: a) using bioengineering techniques to stabilize stream banks and provide stream channel/grade control; b) installing large wood and/or boulders in stream channels to increase habitat diversity; c) installing other site-specific instream structures.

Fish access to preferred habitat will be improved by modifying or removing fish passage barriers.

Project inspections and maintenance will be completed at least twice annually. Additional maintenance will occur following any catastrophic natural events (e.g. floods, wind storms, ice flows, etc.).

Monitoring and Evaluation: There are several ways in which individual projects are monitored and data evaluated. The project has been monitoring the following:

- * Stream Temperatures: Eight thermographs have been installed at the upper and lower ends of selected project streams to measure long term changes in stream temperatures. These thermographs record water and in some cases air temperatures on an hourly basis. Data is graphed year to year to show changes in temperature profile.
- * Habitat Monitoring Transects: These transect studies measure specific physical and biological characteristics (i.e. channel substrate, channel width, bank height, flow features, ground cover type, stream shading, etc.) in selected study areas. They are designed to measure long term changes in riparian vegetation and stream channel morphology. One hundred twenty habitat monitoring transects on two streams have been established within the John Day sub basin. Following establishment of these transects and the initial data collection, measurements have been retaken at 5 year intervals.
- * Photopoints: Due to the size and complexity of the program, the easiest and least costly way to monitor results from individual projects is through photographic

documentation. The purpose of these photographs is to show changes in riparian vegetation (such as increased canopy shading, improved stream bank stability, etc.), and changes in stream channel morphology (such as narrowing and deepening of the channel). Several photopoints are established on each individual project prior to implementation. Pictures are then retaken from most of these sites on an annual basis. In the John Day basin 181 photopoints have been established. Photographs and slides are used for presentations, as educational tools and duplicates are provided to landowners to demonstrate project benefits that have occurred on their respective properties.

- * Other Biological Surveys: Spawning ground counts of salmon and steelhead, inventories of juvenile fish and nesting birds and growth rate measurements of woody plant species have been collected on selected streams.

The results of monitoring efforts have been included in quarterly, annual and other special reports, and are shared with other agencies or interested parties. Information frequently shared by this program includes: Adult salmonid redd counts conducted throughout the basin; physical stream habitat surveys; aerial photographs and research information on salmonid life histories. This information is made available to respective ODFW fish districts, research groups, and other agencies or programs.

Results Expected: This project ensures that streams and associated native plant communities are allowed to evolve through their natural stages of succession. Important riparian plant communities such as cottonwood and aspen groves are protected from harvest or other human related damage. In general, near term changes (1-5 years) in the affected streams include: increases in grasses, forbes and shrubs; narrowing and deepening of the stream channel and improved overall habitat diversity. Long term changes (>5 years) include: increased shading from developing an over story of trees, reduced summer temperatures; increased summer flows; reduced sedimentation; less bank erosion; increased instream and riparian habitat diversity; and reduced winter icing. Eventually, this will lead to climax plant communities with an over story of deciduous or coniferous tree species, accompanied by a mid and under story plant/shrub community. Increases in large woody debris input and associated pool habitat will occur naturally as late succession/climax plant communities develop (Meehan 1991).

Improvement of the quantity and quality of spawning and rearing habitat for spring Chinook, summer steelhead and resident fishes will result from this passive regeneration approach (Meehan 1991, Cheney et.al. 1993). We believe this project will provide multiple wildlife benefits as well, since approximately 75-80% of all wildlife species utilize riparian habitats for at least some portion of their life cycle.

We will continue to work cooperatively with landowners, tribes, other state and federal agencies, and provide educational opportunities to interested parties.

f. Facilities and equipment.

This Fish Habitat project is headquartered at the ODFW Fish Passage Facility in John Day, Oregon. This 6.5 acre facility was built in 1994 by the Bonneville Power Administration for \$2,084,000.00. Office space, secretarial support, computers, shop facilities, storage and heavy equipment is shared with the Oregon Fish Screens Project (FWP # 9306600). Vehicles are provided by the Oregon State motor pool. Dry storage and fence materials storage are also provided by the facility.

The project has acquired fence construction equipment throughout the last 15 years including: All terrain vehicles for checking and mending fences, a tractor with post driver for constructing fences, a forklift for loading fence materials and two trailers for hauling fence materials.

No additional special or high cost equipment will be required to complete the project in FY 1999.

g. References.

Cheney E., Elmore W., Platts W. 1993. Managing Change: Livestock Grazing on Western Riparian Areas. Northwest Resource Information Center, Inc. Eagle, Idaho.

Confederated Tribes of the Umatilla Indian Reservation, 1984, Recommended Salmon and Steelhead Improvement Measures for the John Day River Basin. Pendleton, Oregon.

Meehan, W.R., editor. 1991. Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats. American Fisheries Society Special Publication 19.

Neal, J.A., Jerome, J. 1996. John Day Fish Habitat Improvement Project Annual Report. Oregon Department of Fish and Wildlife. Portland, Oregon.

Oregon Water Resources Department. 1992. Stream Restoration Program for the John Day River Sub basin. Salem, Oregon.

Oregon Department of Fish and Wildlife, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Indian Reservation, 1990, John Day River Sub basin Salmon and Steelhead Production Plan, Portland Oregon.

Rhoades, McCullough and Espinoza. 1994. A coarse screening process for evaluation of the effects of land management activities on salmon spawning and rearing habitat. Columbia River Inter-Tribal Fish Commission Technical Report.

Stuart, A., Lacy, M., Williams, S. 1987. John Day River Fish Habitat Project Implementation Plan. Oregon Department of Fish and Wildlife. John Day, Oregon.

Section 8. Relationships to other projects

This project compliments riparian and fish habitat improvement efforts underway on surrounding US Forest Service and Bureau of Land Management property by assuring anadromous fish passage, continuing their restoration efforts further downstream and by giving refuge to fish stocks that must migrate downstream during winter ice periods.

The local watershed councils, the Natural Resource Conservation Service, the Oregon Department of Forestry and the Oregon Department of Transportation depend on the project for restoration techniques and fence and instream habitat specifications.

The Oregon Fish Screening Project (FWP # 9306600) protects downstream migrating smolts produced by the project. This project frequently shares personnel and equipment, exchanges information and exchanges locations of willing landowners with the screens project.

The Army Corps of Engineers (COE) “Modification of Corps projects for the Benefit of the Environment” program under Section 1135 Authority is working on projects within the basin to restore or improve riparian and floodplain functions for the benefit of fish and wildlife. Personnel from this project have been actively involved with the design and implementation of these Corps projects. The Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (DEQ) also contribute funding that address state or federal water quality standards in the basin. In addition, the COE and the Oregon Division of State Lands (DSL) enforce the stream fill/removal laws in the waters of the state. The project depends on cooperation from these permitting/waiver processes to allow rock, log and woody debris placements and cattle watering device modifications to streams. Project personnel must be knowledgeable of these regulations and acquire permits from these agencies to complete instream work.

Local high school environmental education classes depend on the project for technical advice and access to stream property for monitoring sites.

Another related agency program is the Columbia River Fisheries Development Program (the Mitchell Act) which provides funding to the Oregon Screens Program to protect downstream migrating fish.

Section 9. Key personnel

Jeff Neal is the project manager, 12 months FTE. Duties are: Provide supervision and administration of the project, report on and track project activities, develop and implement fish habitat improvements and prepare reports, presentations and tours to facilitate interagency coordination and education.

Mr. Neal graduated from Oregon State University in 1981 with a B.S. in Fisheries Science. He has been the project manager for the past 11 years performing the above duties. Previously he was the Fish Habitat Biologist for the Confederated Tribes of the Umatilla Indian Reservation in Pendleton, Oregon. Mr. Neal has negotiated and signed 21 landowner leases for the project; developed and implemented 46.5 stream miles of fish habitat construction; monitored, evaluated and maintained 64.5 miles of fish habitat improvements and prepared the last 12 annual reports describing project completions.

Section 10. Information/technology transfer

The project has signed cooperative agreements with four agencies, 34 landowners, the Confederated tribes of the Umatilla and Warm springs Indian Reservations and three area high schools that specifically list information and technology transfer as a requirement. The information is delivered through quarterly and annual reports and on a site specific basis through technical advice.

All interagency (US Forest Service, Bureau of Land Management) information and technology transfer is coordinated through the John Day Fish Habitat Implementation Plan (Stuart et.al. 1985), presentations/poster sessions at professional society meetings and on site specific tours. Non-agency cooperative agreements are signed with the Grant County Soil and Water Conservation District and the North Fork John Day Watershed Council.

Intraagency technology transfer occurs between the ODFW Grande Ronde (FWP # 8402500), Umatilla (FWP # 8710002), Trout Creek (FWP # 9404200) and Fifteenmile (FWP # 9304000) Fish Habitat Improvement Projects through yearly meetings, tours and quarterly and annual reports.

Reports and data summaries (such as stream temperatures, fish or habitat surveys, before/after photopoint pictures) are distributed to a large number of individuals and agencies including the USFS, BLM, DEQ, DSL, landowners and the tribes.

Signs are placed in visible locations on all projects identifying them as cooperative efforts between agencies and private landowners. News articles are occasionally written, photopoint pictures are frequently exhibited at county fairs, boy scout and sportsmen's meetings.